

SUBCHAPTER V—STANDARDS OF  
ELECTRICITY

**§§ 221, 222. Repealed. July 21, 1950, ch. 484, § 13, 64 Stat. 370**

Sections, act July 12, 1894, ch. 131, §§ 1, 2, 28 Stat. 101, 102, related to units of electrical measure. See sections 223 and 224 of this title.

**§ 223. Units of electrical measure**

From and after July 21, 1950, the legal units of electrical and photometric measurement in the United States of America shall be those defined and established as provided in the following paragraphs.

**Resistance-ohm**

The unit of electrical resistance shall be the ohm, which is equal to one thousand million units of resistance of the centimeter-gram-second system of electromagnetic units.

**Current-ampere**

The unit of electric current shall be the ampere, which is one-tenth of the unit of current of the centimeter-gram-second system of electromagnetic units.

**Electromotive force and electric potential-volt**

The unit of electromotive force and of electric potential shall be the volt, which is the electromotive force that, steadily applied to a conductor whose resistance is one ohm, will produce a current of one ampere.

**Quantity-coulomb**

The unit of electric quantity shall be the coulomb, which is the quantity of electricity transferred by a current of one ampere in one second.

**Capacitance-farad**

The unit of electrical capacitance shall be the farad, which is the capacitance of a capacitor that is charged to a potential of one volt by one coulomb of electricity.

**Inductance-henry**

The unit of electrical inductance shall be the henry, which is the inductance in a circuit such that an electromotive force of one volt is induced in the circuit by variation of an inducing current at the rate of one ampere per second.

**Power-watt**

The unit of power shall be the watt, which is equal to ten million units of power in the centimeter-gram-second system, and which is the power required to cause an unvarying current of one ampere to flow between points differing in potential by one volt.

**Energy—joule; kilowatt—hour**

The units of energy shall be (a) the joule, which is equivalent to the energy supplied by a power of one watt operating for one second, and (b) the kilowatt-hour, which is equivalent to the energy supplied by a power of one thousand watts operating for one hour.

**Intensity of light—candela**

The unit of intensity of light shall be the candela, which is one-sixtieth of the intensity of one square centimeter of a perfect radiator, known as a “black body”, when operated at the temperature of freezing platinum.

**Flux of light—lumen**

The unit of flux of light shall be the lumen, which is the flux in a unit of solid angle from a source of which is the intensity is one candela.

(July 21, 1950, ch. 484, §§ 1–11, 64 Stat. 369; Nov. 4, 1963, Pub. L. 88–165, 77 Stat. 299.)

AMENDMENTS

1963—Pub. L. 88–165 substituted “candela” for “candle” wherever appearing.

**§ 224. Establishment of values of primary electric and photometric units in absolute measure; legal values**

It shall be the duty of the Secretary of Commerce to establish the values of the primary electric and photometric units in absolute measure, and the legal values for these units shall be those represented by, or derived from, national reference standards maintained by the Department of Commerce.

(July 21, 1950, ch. 484, § 12, 64 Stat. 370.)

SUBCHAPTER VI—STANDARD BARRELS

**§ 231. Standard barrel for apples; steel barrels**

The standard barrel for apples shall be of the following dimensions when measured without distention of its parts: Length of stave, twenty-eight and one-half inches; diameter of head, seventeen and one-eighth inches; distance between heads, twenty-six inches; circumference of bulge, sixty-four inches outside measurement, representing as nearly as possible seven thousand and fifty-six cubic inches: *Provided*, That steel barrels containing the interior dimensions provided for in this section shall be construed as a compliance therewith.

(Aug. 3, 1912, ch. 273, § 1, 37 Stat. 250.)

CROSS REFERENCES

Standard barrel for fruits or other dry commodity, see section 234 of this title.

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in sections 232, 233 of this title.

**§ 232. Barrels below standard; marking**

All barrels packed with apples shall be deemed to be below standard if the barrel bears any statement, design, or device indicating that the barrel is a standard barrel of apples, as defined in section 231 of this title, and the capacity of the barrel is less than the capacity prescribed by said section, unless the barrel shall be plainly marked on end and side with words or figures showing the fractional relation which the actual capacity of the barrel bears to the capacity prescribed by said section. The marking required by this section shall be in block letters of size not less than seventy-two point (one-inch) gothic.

(Aug. 3, 1912, ch. 273, § 4, 37 Stat. 251.)

SECTION REFERRED TO IN OTHER SECTIONS

This section is referred to in section 233 of this title.

**§ 233. Penalty for violations**

Any person, firm, or corporation, or association who shall knowingly pack or cause to be